NATIONAL PARK SERVICE
ENVIROFACTS
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National Park Service
Hazardous Waste Management &
Pollution Prevention Team
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LIGHTING WASTE MANAGEMENT

DEFINITIONS

Lighting Waste: Certain waste components of lighting systems are regulated by the Environmental Protection Agency (EPA). These are fluorescent and high intensity discharge (HID) light ballasts containing polychlorinated biphenyls (PCBs) and Di (2-ethylhexyl) phthalate (DEHP) and fluorescent and HID lamps containing mercury (Hg).

APPLICABLE STANDARDS

Federal: Leaking PCB ballasts are regulated under the Toxic Substances Control Act (TSCA) and Title 40 of the Code of Federal Regulations (CFR) Part 761. Non leaking ballasts are exempt from this regulation.

Generators of waste lamps containing Hg are subject to RCRA hazardous waste determination and management requirements pursuant to 40 CFR 261-272.

Generators of waste DEHP, PCB, and Hg containing lighting wastes are subject to "Reportable Quantity" (RQ) notification and liability requirements under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and it's implementing regulation 40 CFR 302. Parks must comply if the quantities to be disposed of equal or exceed RQs of one (1) lb. for PCB or Hg; and 100lbs. for DEHP.

State: Parks may be subject to more stringent state regulations concerning lighting wastes. Each park should review applicable state requirements.

Other: Parks should refer to the USEPA guidance document titled "Lighting Waste Disposal" (EPA 430-B-95-004) for additional information on state and federal requirements.

HANDLING & STORAGE

Mercury Containing Lamps

- Replacement lamp boxes are recommended for storage of waste lamps. These boxes should be labeled "Hazardous Waste" and handled in accordance with applicable state and federal hazardous waste regulations.
- Lamp crushing equipment should not be used to reduce waste volume.
- Broken fluorescent or HID lamps should also be handled as a hazardous waste.

PCB & DEHP Ballasts

- Ballasts should be inspected for leaks prior to removal. Leaking ballasts should be replaced as soon as they are identified.
- Leaking PCB ballasts and any associated contaminated material must be handled as a "PCB waste" under TSCA (40 CFR 761.3). The ballasts should be removed and placed in "PCB Waste" labeled containers, sealed and stored in a secure location for disposal.
- Leaking known or suspect DEHP ballasts should be collected in dedicated labeled containers.
- Known or suspected PCB and DEHP ballasts being removed from service should also be collected and stored in dedicated, sealed containers.
- Appropriate health and safety procedures and personal protective equipment should be employed when handling leaking ballasts.

RECYCLING/DISPOSAL

Mercury Containing Lamps: Recycling mercury containing lamps is encouraged. There are recycling facilities throughout the U.S. which will accept spent mercury containing lamps. If recycling is not feasible, spent mercury containing lamps should be disposed at a permitted hazardous waste treatment, storage and disposal facility (TSDF) in accordance with state and federal hazardous waste regulations. Mercury containing lamps should not be incinerated.

PCB & DEHP Ballasts: Leaking PCB ballasts must be disposed in an EPA permitted TSDF (40 CFR 761.3). All known or suspected PCB as well as DEHP ballasts must be sent to a permitted TSDF for high temperature incineration, regardless of whether they are leaking.

Licensed hazardous waste transporters and uniform hazardous waste manifesting procedures should be used for PCB and DEHP ballast and mercury lamp disposal.

SPECIAL TOPICS

Characterization

Mercury Lamps: Manufacturer's data or Toxicity Characteristic Leaching Procedure (TCLP) analysis is required to determine if waste mercury containing lamps are hazardous due to the toxicity characteristic. If TCLP results exceed 0.2 milligrams mercury per liter, the lamp waste must be managed as a hazardous waste (40 CFR 260-272). *In the absence of waste characterization data, waste fluorescent and HID lamps must be handled as hazardous wastes.*

PCB Ballasts: Ballasts manufactured through 1979 may contain PCBs. Ballasts manufactured after 1979 that do not contain PCBs are required to be labeled "No PCBs" by the manufacturer. *Unless otherwise indicated by manufacturers' data, labels, or test results, assume ballasts contain PCBs.*

DEHP Ballasts: Ballasts manufactured between 1979 and 1991 may contain DEHP. DEHP in it's raw form is a listed hazardous waste under RCRA but once it has been used in a light, it is no longer considered hazardous (40 CFR 261.33). The DEHP content in ballasts can be determined from the manufacturer or through sampling and laboratory analysis. *If chemical content data is not available, then assume the ballast contains DEHP.*

Reporting & Recordkeeping

- Spent mercury containing lamps must be included in the park's RCRA generator status determination.
- Certificates of destruction should be obtained from the TSDF for PCB and DEHP disposal.
- Releases from or disposal of lighting wastes which exceed CERCLA thresholds are subject to notification requirements under 40 CFR 302.
- TCLP or other laboratory analytical results as well as disposal and recycling records for lighting wastes should be permanently maintained by the park.

OTHER ELECTRICAL EQUIPMENT

Transformers, switches and voltage regulators, particularly those manufactured before 1980 may contain PCB contaminated dielectric fluid. These equipment are also subject to handling and disposal requirement under TSCA (40 CFR 761).

ENVIROFACTS X-REFERENCES

- Hazard Communication
- Hazardous Waste Characterization
- Choosing a Waste Disposal Facility
- Spill Response and Reporting

LIGHTING WASTE MANAGEMENT CHECKLIST

Checklist Item	Notes
1. Determine whether your state has adopted more stringent standards for the management of PCB, DEHP, and mercury containing lamp lighting waste.	
2. Verify that all leaking PCB containing ballasts are handled as “PCB Waste” under TSCA.	
3. Verify that known or suspected PCB and DEHP ballasts to be disposed are placed in segregated, labeled containers and stored in a secure location for disposal.	
4. Confirm that known or suspected leaking and non-leaking PCB and DEHP containing ballasts are sent to a USEPA permitted TSDF for high temperature incineration.	
5. Confirm that certificates of destruction are received for PCB and DEHP ballasts that are disposed.	
6. Verify that your park is managing all mercury containing lamps (i.e. fluorescent and HID lamps) as hazardous waste unless manufacturing data or laboratory analysis has proven otherwise.	
7. Confirm that recycling is being conducted or has been evaluated and found unfeasible as a disposal option for your park’s spent mercury-containing lamps.	
8. Confirm that if not recycled, all waste mercury-containing lamps are disposed at a permitted TSDF.	
10. Ensure that a licensed hazardous waste transporter is used to ship PCB, DEHP, and mercury containing lamp waste to the TSDF.	
11. Ensure that uniform hazardous waste manifests and other disposal records including certificates of destruction for PCB and DEHP ballasts are maintained at the park.	
12. Ensure that the National Response Center is notified of any releases from or disposal of lighting wastes that exceed CERCLA reportable quantity thresholds.	